UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte DAVID S. DUNNING and JOEL C. DODD

Appeal No. 2006-1089
Application No. 08/766,895

ON BRIEF

Before KRASS, JERRY SMITH and NAPPI, **Administrative Patent Judges**.

NAPPI, **Administrative Patent Judge**.

DECISION ON APPEAL

This is a decision on the appeal under 35 U.S.C. § 134 from the examiner's rejection of claims 1 to 27.

The Invention

The invention relates to a method for routing packets of data through a network using encoded signals. See page 2 of appellants' specification. As shown in figure 2, the packet of data includes a destination address header (301), a payload of data of signals to be transferred (320) and a trailer. See also appellants' specification page 8, lines 17-20. The packet is encoded, several coding schemes are addressed on page 9 of appellants' specification however lines 8-9 of that same page state "[t]he invention is not limited in scope to a particular coding scheme." The binary signals for the header are selected such that when encoded they directly provide the routing information to a network switch which routes the packet through the network. See page 10, line 3 through page 11, line 4 of appellants' specification. The advantage of this is that it reduces the circuitry needed in the switch. See page 11, line 5 of appellants' specification.

Claim 17 is representative of the invention and is reproduced as follows:

> 17. A method of routing a packet of binary digital signals through a network, said method comprising:
>
> receiving at a switch in the network the packet of binary digital signals as encoded binary digital signals including a bit pattern chosen so that when the bit pattern is encoded it directly provides information regarding routing the packet through the network in its encoded form without decoding.

References

Huang et al.	5,442,474	August 15, 1995

Rejections at Issue

Claims 1 to 27 stand rejected under 35 U.S.C.§ 102 as being anticipated by Huang et al. Rather then repeat the arguments of appellants or the examiner we make reference to the appeal brief and the examiner's answer for the respective details thereof.

Opinion

Initially we note that this is the second appeal in the instant application. In our previous opinion, dated April 19, 2004, we affirmed the examiner's rejection of claims 1 through 27 under 35 U.S.C.§ 102 as being anticipated by Huang et al. In our April 19, 2004 decision we noted that the examiner's rejection identified that either Huang's header bits or routing bits meet the claimed encoded binary coded signals. As appellants presented no arguments directed to whether Huang's routing bits meet the claimed invention, we affirmed the examiner's rejection. In the current appeal the examiner is again asserting that Huang's routing bits meet the claimed encoded binary coded signals. However, in light of the appellants' arguments presented in the current appeal brief, we now reverse the examiner's rejection of claims 1-27 under 35 U.S.C. § 102.

Appellants argue, on page 4 of the brief: "Huang fails to teach or suggest a method where binary digital signals are encoded to include a bit pattern selected so that it directly provides information regarding routing the packet through the network in its encoded form" as is claimed in claim 1. Appellants additionally assert, on pages 5 and 6 of the brief, that Huang teaches a system that uses routing bits to separate a multi channel signal into respective communication paths and that Huang's routing bits are not encoded or include a pattern as claimed. Appellants argue, on page 7 of the brief:

> [T]he examiner alleges that "Huang discloses encoded binary signals by virtue of the routing bits being in binary form such as 0 and 1 (11/04/04 Final Office action pg. 8). Appellant [sic, Appellants] respectfully believes this interpretation is not reasonable and would not be the interpretation of one skilled in the art in view of the specification and existing prior art. All binary signals are necessarily in the form of 1s or 0s so given this overly broad interpretation, all binary signals would [be] encoded binary signals. Respectfully, this interpretation entirely disregards the embodiments (and context) disclosed in Appellant's [sic, Appellants'] specification (see pg. 9, ll. 14-15) as well as that known by one of ordinary skill in the art.

The examiner responds on page 9 of the answer, asserting Huang's routing bits provide routing information in their encoded form and citing column 6 lines 14-31 and line 59 through column 7, line 20. Further, the examiner argues:

> Huang discloses routing bits which are encoded binary bits. In Huang's routing system, routing bits are in the form of encoded binary bits as seen in figure 2. It is further noted that binary encoding is one of the most fundamental encoding techniques in the art of building communications systems (Copies of the first three pages of the book titled "Information Theory and Reliable Communication" (1968) by Robert G. Gallager, are included herein [attached to the examiner's answer not this opinion]. Figure 1.1.2 in page 3 shows the use of a binary encoder as the source encoder, which encodes source information into binary data).

While we concur with the examiner's finding that Huang teaches the packet of binary signals are encoded, we disagree with the examiner's finding that the encoded routing bits directly provide information regarding routing of the bit.

Huang teaches a system in which a packet of multiplexed data is received at a switch and routed to an output of the switch based upon the routing bits. See abstract, see also figure 5. As is seen in figures 2 and 5 the data is transmitted serially. Huang teaches that the self routing Node, item 130 (in embodiment of figure 1) and item 500 (in embodiment of figure 5) contains a routing bit selector, items 150 and 520, and a routing bit storage unit items 160, 530 and 540. The routing bit selector and routing bit storage unit server enables the switch to store the routing bits in the storage unit. See column 4, lines 49 through 55 and column 6, lines 54 through 66. The output of these routing bit storage units is used to demultiplex the data packet and appropriately route the data. See column 5, lines 8 through 25 and column 6, lines 59 through column 7, line 6. We note that Huang does not teach that the routing bits are output by the demultiplexers, items 170, 551 and 552.

Claim 1 includes the limitation: "receiving at a switch in said network the packet of binary digital signals as encoded binary digital signals." We find that Huang does teach this limitation. Appellants' specification does not define the terms "encoded" and "decoding." However, appellants' specification does

identify that "serializing the packet is considered part of the encoding" and "decoding includes deserializing" see page 9, lines 6 through 7 and page 11, lines 18 through 19. Further, we concur with the examiner's finding that representing data in binary form is necessarily encoding data. Thus, we find that Huang does teach "receiving at a switch in said network the packet of digital data signals as encoded binary digital signals" as Huang teaches the bit packet is both binary and serially received.

However, claim 1 also recites that the encoded binary digital signal "including a bit pattern chosen so that when the bit pattern is encoded it directly provides information regarding routing the packet through the network in its encoded form." As discussed in our April 19, 2004 decision, the term "directly" is not defined in the specification, however the plain meaning of "no intervening step" is supported by the appellants' specification. See page 10 lines 9-12 of the appellants' specification, which state "including a bit pattern chosen so that when the bit pattern is encoded it directly provides information regarding routing the packet through the network in its encoded form." Thus, the scope of claim 1 includes an encoded bit pattern which contains information in the form of an address or designation of a path for routing the packet through the network, and that the bit pattern presents the information to the switch without requiring the interim step of decoding the bit pattern. We do not find that Huang teaches this limitation. As discussed above, Huang requires a routing bit select circuit and a routing bit storage circuit to decode the routing bits. These circuits work to

decode and deserialize the routing bits. Thus, Huang contains an interim step of decoding the routing bit to route the data packet through the network. Accordingly, we will not sustain the examiner's rejection of claim 1, or the claims dependent thereupon, claims 2 through 9.

Independent claims 10, 17, 22 and 25 contain limitations directed to the encoded binary signal including a bit pattern which directly provides information regarding routing the packet through the network. Thus, for the reasons stated with respect to claim 1, we will not sustain the examiner's rejection of claims 10 through 27.

In summary, we will not sustain the examiner's rejection of claims 1 through 27 under 35 U.S.C.§ 102. The decision of the examiner is reversed.

REVERSED

ERROL A. KRASS
Administrative Patent Judge

JERRY SMITH
Administrative Patent Judge

ROBERT E. NAPPI
Administrative Patent Judge

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